

Mentype[®] Chimera[®]

The new standard in monitoring chimerism



Mentype[®] Chimera[®] was developed as a multiplex PCR application for chimerism analysis after bone marrow transplantation. It allows the monitoring of post-transplant engraftment and the early detection of reappearance of malignant cells. The application contains a set of novel, highly discriminative STR systems, as well as established forensic markers. The combination of these specific markers was chosen to increase the accuracy and reproducibility of chimerism analysis.

The following twelve highly polymorphic autosomal markers are amplified simultaneously:

D2S1360, D3S1744, D4S2366, D5S2500, D6S474, D7S1517, D8S1132, D10S2325, D12S391, D18S51, D21S2055, SE33 (ACTBP2), as well as the gender-specific **Amelogenin**.

One primer for each locus is fluorescence-labelled with **6-FAM[™]**, **BTG**, or **BTY**.

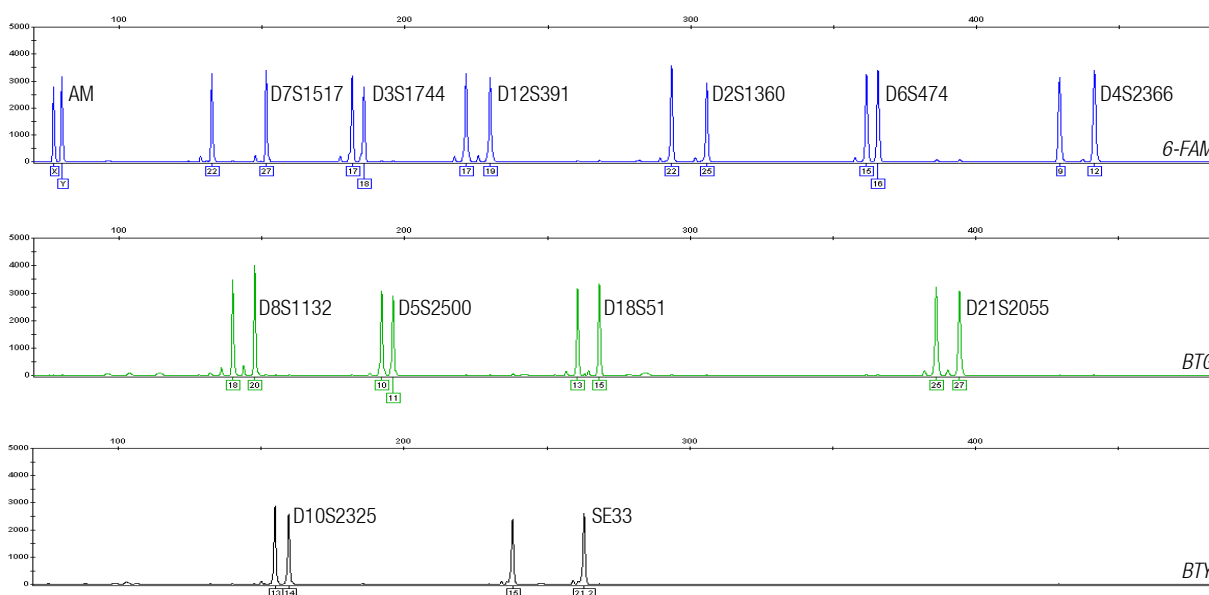
Bio type[®]



Mentype[®] Chimera[®] for specific requirements of quantitative chimerism analysis:

- highly polymorphic markers validated by monitoring chimerism of more than 200 HLA-matched related donor-recipient-pairs*
- high degree of heterozygosity (most of the markers > 0.8)*
- STR systems with balanced allelic distribution
- includes markers with lower stutter ratios (e.g. one pentanucleotide repeat) for improved accuracy and detection of minimal amounts of residual cells in mixtures
- supported with the dedicated analysis tool within the GenoProof[®]2 Software of Qualitytype AG for calculation of the donor/recipient DNA ratio, as well as standard deviations and detection limits directly from raw data

Reliable and highly sensitive DNA profiling for chimerism monitoring



Electropherogram of the Mentype[®] Chimera[®] PCR Amplification Kit using 500 pg of Control DNA XY5. Analysis performed on an ABI PRISM[®] 3130 Genetic Analyzer with the DNA Size Standard 550 (BTO) using the GeneMapper[™] ID Software.

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STRs with high discrimination power and low allelic overlap*

Marker	Heterozygosity	Percent donor/recipient without allelic overlap
D2S1360	0.799	22.1 %
D3S1744	0.812	20.0 %
D4S2366	0.783	20.6 %
D5S2500	0.786	18.1 %
D6S474	0.735	not validated
D7S1517	0.865	24.9 %
D8S1132	0.869	23.1 %
D10S2325	0.885	24.1 %
D12S391	0.902	25.4 %
D18S51	0.879	27.7 %
D21S2055	0.770	not validated
SE33 (ACTBP2)	0.951	45.1 %

* C. Thiede *et al*, Leukemia (2004) 18, 248–254

Technical specifications

Detection limit: ≤ 200 pg genomic DNA

Optimal amount of template DNA per reaction: 0.2-1.0 ng

Volume per PCR reaction: 25 µL

Fluorescence labels: 6-FAM[™], BTG, BTY, BTO

Use with Genetic Analyzers

ABI PRISM[®] 310

ABI PRISM[®] 3130/3130xl/3500/3500xl

ABI PRISM[®] 3100-Avant/3100

ABI PRISM[®] 3700/3730

For references

Universitätsklinikum Carl Gustav Carus Dresden, Medizinische Klinik und Poliklinik I, Prof. Dr. C. Thiede

Universitätsklinikum Essen, Klinik für Knochenmarktransplantation, Prof. Dr. A. Elmaagacli

Universitätsklinikum Gießen und Marburg GmbH, Klinik für Hämatologie & Onkologie, Dr. C. Brendel

Klinikum der Universität Regensburg, Institut f. Klinische Chemie & Laboratoriumsmedizin, Prof. Dr. G. Schmitz/Prof. Dr. C. Aslanidis

Ordering information

Product	Content	Cat. No.
Mentype [®] Chimera [®]	25 reactions	45-13210-0025
Mentype [®] Chimera [®]	100 reactions	45-13210-0100
Mentype [®] Chimera [®]	400 reactions	45-13210-0400
Mentype [®] Chimera [®]	1000 reactions	45-13210-1000
Biotype [®] Matrix Standard BT5 for single-capillary instruments	5x25 µL	00-10411-0025
Biotype [®] Matrix Standard BT5 for multi-capillary instruments	25 µL	00-10421-0025
Biotype [®] Matrix Standard BT5 for multi-capillary instruments	50 µL	00-10421-0050

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